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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/632,714	08/01/2003	Bor-Jiunn Niu	100110448-4	2792

7590 03/18/2004

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EXAMINER

SHEWAREGED, BETELHEM

ART UNIT	PAPER NUMBER
	1774

DATE MAILED: 03/18/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/632,714	NIU ET AL.	
	Examiner	Art Unit	
	Betelhem Shewareged	1774	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 01 August 2003.
 2a) This action is **FINAL**. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-3 and 9-30 is/are pending in the application.
 4a) Of the above claim(s) 13-26 is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 1-3,9-12 and 27-30 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. This application contains claims directed to the following patentably distinct species of the claimed invention: A: An ink repelling layer having a natural wax (Claims 1-3, 9-12 and 27-30); B: An ink repelling layer having hydrophobic beads coated on a hydrophilic layer (Claims 15-19 and 24-26); and C: An ink repelling layer having a natural wax coated on a hydrophilic layer (Claims 20-23).
2. Claims 13 and 14 are linking claims to either Species C or D (i.e., claims 13 and 14 will be examined with either Species C or D).
3. Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, there are no generic claims.
4. Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.
5. Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

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6. Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

7. During a telephone conversation with W. Bradley Haymond on 03/12/2004 a provisional election was made with traverse to prosecute the invention of Species A, claims 1-3, 9-12 and 27-30. Affirmation of this election must be made by applicant in replying to this Office action. Claims 13-26 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

8. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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10. Claims 1, 3, 9-11 and 27-29 are rejected under 35 U.S.C. 102(b) as being anticipated by Wang et al. (US 6,177,239).

Wang teaches an imaging element for ink jet recording (col. 1, line 34) comprises a support, at least one imaging layer on one side of the support and a lubricant layer on the other side of the support as a backing layer (col. 3, line 11). The lubricant layer contains composite wax particles (col. 2, line 64) and additives such as matting agent (col. 3, line 20). The composite wax particles have 80% by weight of a wax phase composed of a natural wax such as carnauba wax and paraffin wax (col. 3, line 66 thru col. 4, line 14), and a polymer phase composed of polymer prepared from acrylic monomer (col. 4, line 54). The polymer can be physically bonded to the wax phase (col. 6, line 10). The amount of the polymer phase calculated to be 100% - 80% = 20%, thus the polymer to wax ratio calculated to be 2:8, which overlaps with the claimed ratio of binder to wax. Claim 9 of the claimed invention recites that the polymeric binder is blended with the natural wax. Blending at least two compounds is equivalent to mixing the compounds, which provides physical bonding of the compounds as in Wang (col. 6, line 10).

11. Claims 1, 3, 9, 10, 27 and 28 are rejected under 35 U.S.C. 102(b) as being anticipated by Wang et al. (US 6,177,239).

Wang teaches an imaging element for ink jet recording (col. 1, line 34) comprises a support, an image forming layer on the support and at least one layer on the support, wherein the at least one layer comprises composite wax particles made of carnauba

wax or paraffin wax, binders such as polyacrylates, and additives such as matting agents (claims 1, 5, 8, 9 and 10). Layers other than image forming layer are referred to auxiliary layers, and a typical application of such layer is a backing layer (col. 1, lines 29-40).

12. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

- (e) the invention was described in–
 - (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or
 - (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

13. Claims 1-3 are rejected under 35 U.S.C. 102(e) as being anticipated by Sarkar et al. (US 6,465,081).

Sarkar discloses an image receptor sheet for images generated by ink jet printers (col. 1, line 11), wherein the receptor sheet comprises a substrate, an ink receptive layer on one side of the substrate and an ink repellent layer on the other side of the substrate (col. 3, line 22). The ink repellent layer is equivalent to the claimed layer on the back surface of the substrate. The ink receptive layer comprises hydrophilic polymer (col. 5, line 62). The ink repellent layer comprises water insoluble polymer (col. 4, line 63), and the layer repels a wide range of fluid compositions thereby preventing their transfer to the ink repellent surface (col. 4, line 9).

Claim Rejections - 35 USC § 103

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

15. Claims 12 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wang et al. (US 6,177,239).

Wang teaches an imaging element for ink jet recording (col. 1, line 34) comprises a support, at least one imaging layer on one side of the support and a lubricant layer on the other side of the support as a backing layer (col. 3, line 11). The lubricant layer contains composite wax particles (col. 2, line 64) and additives such as matting agent (col. 3, line 20). The composite wax particles have 80% by weight of a wax phase composed of a natural wax such as carnauba wax and paraffin wax (col. 3, line 66 thru col. 4, line 14), and a polymer phase composed of polymer prepared from acrylic monomer (col. 4, line 54). The polymer can be physically bonded to the wax phase (col. 6, line 10). The amount of the polymer phase calculated to be 100% - 80% = 20%, thus the polymer to wax ratio calculated to be 2:8, which overlaps with the claimed ratio of binder to wax. Since the lubricant layer comprises wax particles and matting agents, the layer would have a certain roughness, however, Wang fails to disclose such roughness value.

The experimental modification of this prior art in order to ascertain optimum

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operating conditions fails to render applicants' claims patentable in the absence of unexpected results. *In re Aller*, 105 USPQ 233. One of ordinary skill in the art would have been motivated to adjust the surface roughness value of the lubricant layer in order to optimize the coefficient of friction (COF) so as to provide proper conveyance properties and to protect the imaging element from mechanical damage during the manufacturing process or customer use (col. 1, line 60). A *prima facie* case of obviousness may be rebutted, however, where the results of the optimizing variable, which is known to be result-effective, are unexpectedly good. *In re Boesch and Slaney*, 205 USPQ 215.

16. Claims 29 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wang et al. (US 6,177,239).

Wang teaches an imaging element for ink jet recording (col. 1, line 34) comprises a support, an image forming layer on the support and at least one layer on the support, wherein the at least one layer comprises composite wax particles made of carnauba wax or paraffin wax, binders such as polyacrylates, and additives such as matting agents (claims 1, 5, 8, 9 and 10). Layers other than image forming layer are referred to auxiliary layers, and a typical application of such layer is a backing layer (col. 1, lines 29-40). Since the at least one layer comprises wax particles and matting agents, the layer would have a certain roughness, however, Wang fails to disclose such roughness value.

The experimental modification of this prior art in order to ascertain optimum

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operating conditions fails to render applicants' claims patentable in the absence of unexpected results. *In re Aller*, 105 USPQ 233. One of ordinary skill in the art would have been motivated to adjust the surface roughness value of the at least one layer in order to optimize the coefficient of friction (COF) so as to provide proper conveyance properties and to protect the imaging element from mechanical damage during the manufacturing process or customer use (col. 1, line 60). A *prima facie* case of obviousness may be rebutted, however, where the results of the optimizing variable, which is known to be result-effective, are unexpectedly good. *In re Boesch and Slaney*, 205 USPQ 215.

Conclusion

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Betelhem Shewareged whose telephone number is 571-272-1529. The examiner can normally be reached on Mon.-Thur. 7:30AM-6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia H Kelly can be reached on 571-272-1526. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Betelhem Shewareged
March 12, 2004.